SESSION 5B

ESTIMATING THE VALUE OF EFFICIENCY AS A GREENHOUSE GAS MITIGATION OPTION

Moderator: Niko Dietsch, U.S. EPA Clean Energy-Environment Partnerships

PAPERS:

Quantifying and Valuing Displaced Power Plant Emissions as a Greenhouse Gas Mitigation Option

David Sumi, PA Consulting Group
Eric Rambo, PA Consulting Group
Bryan Ward, PA Consulting Group
Mark Trexler, DNV Climate Change Services

Economic Impacts of Energy Efficiency Within a Cap-and-Trade System

Stephen Grover, ECONorthwest
Jenny Yaillen, ECONorthwest
Alec Josephson, ECONorthwest
Ted Helvoigt, ECONorthwest

Do Energy Efficiency Strategies Outperform Recycling in GHG Mitigation and Job Creation?

Lisa Skumatz, Skumatz Economic research Associates, Inc.

SESSION SUMMARY:

The development of new and expanded efficiency programs across the country is motivated by a variety of factors, including a strong interest in moderating energy price increases, growing a green economy, and decreasing society's reliance on extractive resources. In recent years, stakeholders increasingly view efficiency and other clean energy resources as low-cost strategies for reducing greenhouse gas (GHG) and other air emissions. As these programs are ramped up, procedures and requirements for the evaluation, measurement, verification, and reporting of program impacts must be established to help stakeholders understand whether these key objectives are being achieved. In particular, data and analysis are needed to quantify and compare the "co-benefits" – including GHG and economic impacts – of competing investments in clean energy and other green strategies. The three papers presented in this session directly address this need by refining existing methods and highlighting their relevance to the policy process.

The first paper, by David Sumi, reports on the state of Wisconsin's progress towards estimating emission factors for electric generation affected by energy efficiency programs. It describes new developments in the state's ongoing efforts to incorporate air impacts into the benefit-cost equation for Focus on Energy's program portfolio. To generate marginal emissions factors, the author quantifies the total value of displaced power plant emissions from energy efficiency and applies a generator "use rate" to 8,760 program load impacts. This new approach is being presented for the first time, and is expected to serve as a useful tool for policy makers seeking to set savings targets for efficiency programs and identify the role for clean energy strategies in an overall GHG reduction strategy.

The second paper, by Steve Grover, describes the analysis that ECONorthwest conducted to estimate the economic impacts of a carbon cap-and-trade policy in the state of Oregon. Grover and his team used data from ICF International's ENERGY 2020 model to identify key economic indicators for

the years 2008 through 2020, and then bounded them with high and low-cost scenarios that test the sensitivity to changes in elasticities across sectors. Results were consistent across all three scenarios and showed an increase in both economic output and employment. By 2020, cumulative impacts of a cap-and-trade policy in Oregon would result in an increase in economic output of $4.6 billion and an increase in nearly 38,000 jobs for the state compared to the reference case.

The third paper, by Lisa Skumatz, examines the performance of efficiency programs ranked relative other strategies. Her objective is to assist communities in identifying and justifying where their efforts (and scarce funds) might be best allocated to assist in achieving applicable GHG goals. The paper goes beyond the traditional kWh- and cost-comparisons used to assess programs, and instead looks at the costs per carbon equivalent reduction for a variety of EE and recycling/diversion strategies to identify their cost-effectiveness in meeting sustainability goals. This analysis involves estimating program impacts (tonnage, kWh) and costs, translating savings estimates to GHG reductions, and then computing – and ranking – cost per carbon equivalent for the program initiatives.